

REMARKS

Claims 1-35 were pending all of which were rejected. Claims 1, 2 and 31 have been amended and Claims 36-42 have been cancelled.

Claim Rejections – 35 U.S.C. §102

Claims 1, 3-4, and 8-12 were rejected under 35 U.S.C. §102(e) as being anticipated by Okazaki (6,653,661) (“Okazaki”). Applicant requests reconsideration.

Amended independent Claim 1 recites, among other things, “a light emitting diode comprising a chip having a light emitting surface that emits light having a range of wavelengths into a medium” and “a collimating optical element disposed to receive the light having only the range of wavelengths emitted from the light emitting surface of the chip”. Thus, no conversion of the wavelengths of light occurs between the light emitting surface of the chip and the collimating optical element. Support for the amendment to Claim 1 is found, e.g., in Figs. 5A, 5B and 6 and the accompanying text. No new matter has been added.

Okazaki, on the other hand, teaches that “the fluorescent layer 8 is positioned between the LED element 1 and the light transmissive resin 7.” Col. 11, lines 22-24; Fig. 11. Okazaki uses the “fluorescent layer 8 for converting the bluish-purple light [emitted by LED element 1] to yellow light”. Col. 11, lines 10 and lines 15-16. Thus, the lens 7 of Okazaki does not “receive the light having only the range of wavelengths emitted from the light emitting surface of the chip” as recited in Claim 1, but instead receives the yellow converted light from fluorescent layer 8. Moreover, there is no suggestion or motivation to remove the fluorescent layer 8. In fact, Okazaki teaches against removing the fluorescent layer 8, noting that the fluorescent layer 8 is used so that the “the light-transmissive resin is prevented from being decomposed by the bluish-purple light.” Col. 3, lines 46-50.

Accordingly, Okazaki fails to teach or suggest all the limitations of Claim 1. Thus, Applicant respectfully submits that Claim 1 is patentable over Okazaki. Reconsideration and withdrawal of this rejection is respectfully requested. Claims 3-4, and 8-12 depend from Claim 1 and are, therefore, likewise patentable for at least the same reasons.

Claims 17-20, 23-26, 28-30 were rejected under 35 U.S.C. §102(e) as being anticipated by Wu (6,769,773) (“Wu”). Applicant respectfully traverses.

Applicant notes that the Examiner did not address the Applicant’s previous arguments in the final Office Action.

Independent Claim 17 recites “a light emitting diode comprising a chip having a light emitting surface, wherein the light emitting surface is not covered by an encapsulant such that the light emitting surface emits light directly into the ambient environment”.

Wu broadly discusses a UV light source in the form of a UV light emitting diode (LED). See, e.g., col. 2, lines 14-15. The Examiner states that Wu discloses “[a] light emitting diode comprising a chip 70 having a light emitting surface, where the light-emitting surface is not covered by an encapsulant such that the light emitting surface emits light directly into the ambient environment (Wu col. 3, lines 36-48 and fig. 9)”. Applicant disagrees. Wu does not provide any details on the LED. Wu illustrates the UV light source 70 schematically as a rectangular box and provides no details or specific disclosure regarding the configuration of the UV light source 70 (or any other light sources). Specifically, Wu fails to disclose that the light emitting surface of the UV light source 70 is “not covered by an encapsulant such that the light emitting surface emits light directly into the ambient environment”.

Accordingly, Wu fails to teach or suggest all the limitations of Claim 17. Thus, Applicant respectfully submits that Claim 17 is patentable over Wu. Reconsideration and withdrawal of this rejection is respectfully requested. Claims 18-20, 23-26, 28-30 depend from Claim 17 and are, therefore, likewise patentable.

Claim Rejections – 35 U.S.C. §103

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Okazaki. Applicant requests reconsideration.

Claim 2 has been amended to be in independent form by incorporating the subject matter of originally filed Claim 1, and thus Claim 2 has not been narrowed. No new matter has been added.

Claim 2 recites “wherein the collimating optical element and the chip are separated by a distance that is less than or equal to approximately 50% of the width of the chip.” While the Examiner stated that the distance is considered to involve routine optimization, Applicant points out that Okazaki teaches that the LED 1 is “electrically connected with the first and second lead frames 3a and 3b via a gold wire 2.” Col. 11, lines 33-35. The gold wire 2 is connected to the top of the LED 1. It would not be possible for Okazaki to be modified to separate the collimating element and the chip “by a distance that is less than or equal to approximately 50% of the width of the chip” as the gold wire 2 that is necessary to electrically

connect with the LED 1 would interfere. Accordingly, contrary to the Examiner's statement, the Examiner's suggested modification of Okazaki it is not a matter of routine optimization.

Accordingly, Applicant respectfully submits that Claim 2 is patentable over Okazaki.

Claims 5 and 34-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Okazaki in view of Waitl et al. (6,610,563) ("Waitl").

Claim 5 depends from Claim 1. Waitl does not make up for the deficiencies of Okazaki. Accordingly, Claim 5 is patentable for at least the same reasons as Claim 1.

Claims 34-35 depend from Claim 31. Neither Okazaki nor Waitl teach or suggest "a micro-display disposed to receive the light emitted from the light emitting surface of the chip after the light passes through the collimating optical element" as recited in Claim 31. Moreover, Waitl does not make up for the deficiencies of Okazaki or Wu as discussed with regard to Claim 31 below. Accordingly, Claims 34-35 are patentable for at least the same reasons as Claim 31.

Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over Okazaki modified by Waitl further in view of Ishinaga (6,180,962) ("Ishinaga").

Claim 6 depends from Claim 1. Ishinaga does not make up for the deficiencies of Okazaki and Waitl. Accordingly, Claim 6 is patentable for at least the same reasons as Claim 1.

Claims 7, 13-16, 31-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Okazaki in view of Wu (6,769,773) ("Wu").

Claims 7 and 13-16 depend from Claim 1. Wu does not make up for the deficiencies of Okazaki. Accordingly, Claims 7 and 13-16 are patentable for at least the same reasons as Claim 1.

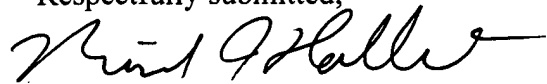
Independent Claim 31 has been amended to recite "a light emitting diode comprising a chip having a light emitting surface that emits light having a range of wavelengths" and "a collimating optical element disposed to receive the light having only the range of wavelengths emitted from the light emitting surface of the chip". As discussed in reference to Claim 1, Okazaki fails to teach or suggest "receive the light having only the range of wavelengths emitted from the light emitting surface of the chip".

Wu fails to make up make up for the deficiencies of Okazaki. Accordingly, Claim 31 is patentable over the combination of Okazaki and Wu. Claims 32-33 depend from Claim 31 and are, therefore, likewise patentable for at least the same reasons.

For the above reasons, Applicants respectfully request allowance of Claims 1-35. Should the Examiner have any questions concerning this response, the Examiner is invited to call the undersigned at (408) 982-8202.

**Via Express Mail Label No.
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